AMENDMENTS

Amendments to the Claims:

Please cancel claims 3-5, 9-17, 21-52, 58-60, 63-66 and 70 without prejudice or disclaimer, and please amend claims 1, 18, 53, 54, 61, 62, 67 and 69 as set forth in the complete listing of the claims that follows. This complete listing of the claims replaces previous claim listings.

1 (currently amended). A method for identifying a subject at risk of breast cancer, which comprises detecting the presence or absence of one or more polymorphic variations associated with breast cancer in a nucleic acid sample from a subject, wherein the one or more polymorphic variations are detected in a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(b) a nucleotide sequence which encodes a polypeptide encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(c) a nucleotide sequence which encodes a polypeptide that is 90% or more identical to the amino acid sequence encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(d) a fragment of a nucleotide sequence of (a), (b), or (c);

whereby the presence of the polymorphic variation is indicative of the subject being at risk of breast cancer.

2 (original). The method of claim 1, which further comprises obtaining the nucleic acid sample from the subject.

3-5 (cancelled).

6 (original). The method of claim 1, wherein the one or more polymorphic variations are detected at one or more positions in SEQ ID NO: 2 selected from the group consisting of 191, 1490, 3781, 3935, 4512, 7573, 8467, 9001, 9732, 13477, 13787, 13903, 14355, 15053, 15459, 17762, 19482, 19631, 22170, 22688, 22748, 23376, 23826, 23868, 24154, 25972, 26057, 26361, 26599, 26712, 26812, 27069, 32421, 33557, 35127,

35222, 35999, 36424, 37403, 39203, 39226, 41147, 46176, 50452, 52919, 60214, 61093, 62572, 63601, 65362, 65863, 66207, 66339, 69512, 70759, 71217, 73382, and 76307.

7 (original). The method of claim 1, wherein the one or more polymorphic variations are detected at one or more positions in SEQ ID NO: 2 selected from the group consisting of 7573, 13903, 23826, 26057, 26361, 26599, 26812, 27069, 35127, 35222, 36424, 46176, 50452, 61093, 62572, and 70759.

8 (original). The method of claim 1, wherein the one or more polymorphic variations are detected at one or more positions in a region spanning positions 23826-36424, 46176-62572, 4512-8467 or 13787-14355 in SEQ ID NO: 2.

9-17 (cancelled).

18 (currently amended). The method of claim 1, wherein the one or more polymorphic variations are detected at one or more positions in linkage disequilibrium with one or more positions in claim 6 ~~claim 3, 6, 9, 12, or 15~~.

19 (original) The method of claim 1, wherein detecting the presence or absence of the one or more polymorphic variations comprises:

hybridizing an oligonucleotide to the nucleic acid sample, wherein the oligonucleotide is complementary to a nucleotide sequence in the nucleic acid and hybridizes to a region adjacent to the polymorphic variation;

extending the oligonucleotide in the presence of one or more nucleotides, yielding extension products; and

detecting the presence or absence of a polymorphic variation in the extension products.

20 (original). The method of claim 1, wherein the subject is a human.

21-52 (cancelled).

53 (currently amended) A method for detecting or preventing breast cancer in a subject, which comprises:

detecting the presence or absence of one or more polymorphic variations associated with breast cancer in a nucleic acid sample from a subject, wherein the polymorphic variation is detected in a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(b) a nucleotide sequence which encodes a polypeptide encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(c) a nucleotide sequence which encodes a polypeptide that is 90% or more identical to the amino acid sequence encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(d) a fragment of a nucleotide sequence of (a), (b), or (c) comprising the polymorphic variation; and

administering a breast cancer prevention procedure or detection procedure to a subject in need thereof based upon the presence or absence of the one or more polymorphic variations in the nucleic acid sample.

54 (currently amended) The method of claim 53, wherein the one or more polymorphic variations are detected at one or more positions in wherein the one or more polymorphic variations are detected at one or more positions in claim 6 ~~claim 3, 6, 9, 12 or 15~~.

55 (original). The method of claim 53, wherein the breast cancer detection procedure is selected from the group consisting of a mammography, an early mammography program, a frequent mammography program, a biopsy procedure, a breast biopsy and biopsy from another tissue, a breast ultrasound and optionally ultrasound analysis of another tissue, breast magnetic resonance imaging (MRI) and optionally MRI analysis of another tissue, electrical impedance (T-scan) analysis of breast and optionally of another tissue, ductal lavage, nuclear medicine analysis (e.g., scintimammography), *BRCA1* and/or *BRCA2* sequence analysis results, thermal imaging of the breast and optionally of another tissue, and a combination of the foregoing.

56 (original). The method of claim 53, wherein the breast cancer prevention procedure is selected from the group consisting of one or more selective hormone receptor modulators, one

or more compositions that prevent production of hormones, one or more hormonal treatments, one or more biologic response modifiers, surgery, and drugs that delay or halt metastasis.

57 (original). The method of claim 56, wherein the selective hormone receptor modulator is selected from the group consisting of tamoxifen, reloxifene, and toremifene; the composition that prevents production of hormones is an aramotase inhibitor selected from the group consisting of exemestane, letrozole, anastrozol, groserelin, and megestrol; the hormonal treatment is selected from the group consisting of goserelin acetate and fulvestrant; the biologic response modifier is an antibody that specifically binds herceptin/HER2; the surgery is selected from the group consisting of lumpectomy and mastectomy; and the drug that delays or halts metastasis is pamidronate disodium.

58-60 (cancelled).

61 (currently amended). A method of selecting a subject that will respond to a treatment of breast cancer, which comprises:

detecting the presence or absence of one or more polymorphic variations associated with breast cancer in a nucleic acid sample from a subject, wherein the polymorphic variation is detected in a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence of SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(b) a nucleotide sequence which encodes a polypeptide consisting of an amino acid sequence encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(c) a nucleotide sequence which encodes a polypeptide that is 90% or more identical to an amino acid sequence encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~; and

(d) a fragment of a nucleotide sequence of (a), (b), or (c) comprising the polymorphic variation; and

selecting a subject that will respond to the breast cancer treatment based upon the presence or absence of the one or more polymorphic variations in the nucleic acid sample.

62 (currently amended). The method of claim 61, wherein the one or more polymorphic variations are detected at one or more positions in claim 6 ~~claim 3, 6, 9, 12 or 15~~.

63-66 (cancelled).

67 (currently amended). A method for determining a risk of breast cancer in a subject, which comprises detecting the presence or absence of two or more polymorphic variations associated with breast cancer in a nucleic acid sample from a subject, wherein two or more of the polymorphic variations are detected in a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(b) a nucleotide sequence which encodes a polypeptide encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(c) a nucleotide sequence which encodes a polypeptide that is 90% or more identical to the amino acid sequence encoded by a nucleotide sequence in SEQ ID NO: 2 ~~SEQ ID NO: 1-5~~;

(d) a fragment of a nucleotide sequence of (a), (b), or (c);

whereby the presence of the polymorphic variation is indicative of the subject being at risk of breast cancer.

68 (original). The method of claim 67, wherein two or more polymorphic variants are detected in two or more nucleotide sequences.

69 (currently amended) The method of claim 68, wherein the two or more polymorphic variations are at one or more positions in wherein the one or more polymorphic variations are detected at one or more positions in claim 6 ~~claim 3, 6, 9, 12 or 15~~.

70 (cancelled).